Note: These sample calculations provide methodology for Right Sizing water meter. Using the Town of Burlington Right Size Excel spreadsheet will greatly simply the selection process.

Meter Criteria

- Proposed Public building
- System pressure at Building 70 psi
- No irrigation system

1. Develop fixture count and Calculated Combined Fixture Value Total
2. Based on Combined Fixture Value Total and Type of Occupancy use either Figure 4-2 or 4-3 to select Water Demand in Gallons Per Minute (gpm).
3. Adjust Water Demand using Pressure Factor from Table 4-1.
4. Calculate Customer Peak Demand. (Water Demand x Pressure Factor)
5. Add Irrigation Demand
6. Add Fixed Load demands if applicable.
7. Calculate Total Fixed Demand.
8. Select Meter

Town of Burlington
Water Customer Data Sheet

Customer: Town of Burlington
Building Address: 25 Center Street

Type of Occupancy: Commercial (commercial or residential)
By: DPW/Engineering
Phone: (781) 270-1640

Fixture	Value @ 60 PSI		Number of Fixtures		Total Value
Bathtub	8	x		=	0
Bedpan Washers	10	x		=	0
Bidet	2	x		=	0
Dental Unit	2	x		=	0
Drinking Fountain - Public	2	x	3	=	6
Kitchen Sink	2.2	x	1	=	2.2
Lavatory	1.5	x		=	0
Showerhead (Shower Only)	2.5	x	1	=	2.5
Service Sink	4	x	1	=	4
Toilet – Flush Valve	35	x	7	=	245
- Tank Type	4	x		=	0
Urinal – Pedestal Flush Valve	35	x	3	=	105
- Wall Flush Valve	16	x		=	0
Wash Sink (Each Set of Faucets)	4	x	7	=	28
Dishwasher	2	x		=	0
Washing Machine	6	x		=	0
Hose (50 ft Wash Down) - 1/2 in.	5	x	2	=	10
- 5/8 in.	9	x		=	0
- 3/4 in.	12	x		=	0
Combined Fixture Value Total				=	402.7

Pressure Adjustment Factor: 70 PSI - 1.09
Water Flow Demand: **80 GPM**

Customer Peak Demand   (Press.Adj.Factor) X (Water Flow Demand) =   **87 GPM**

Add Irrigation
Irrigation areas must be divided into zones, with a maximum irrigation demand of 25 GPM.Provide a detailed irrigation plan and calculations with appropriately designed zones.

GPM   **0 GPM**

Added Fixed Load
Provide detailed description and backup for this demand.

GPM   **0 GPM**

TOTAL FIXED DEMAND   **87 GPM**

Select Meter Size/type: 100 GPM - 1 1/2" PD

Figure 4-5 Water customer data sheet *Adapted from AWWA Manual M22*

Table 4-1 Pressure Adjustment Factors

Working Pressure at Meter Discharge (psi)	Pressure Adjustment Factor
35	0.74
40	0.80
50	0.90
60	1.00
70	1.09
80	1.17
90	1.25
100	1.34

Select 70psi based on local Static Water Pressure

Adapted from AWWA Manual M22 table 4-1

Figure 4-2 Water flow demand per fixture value - low range
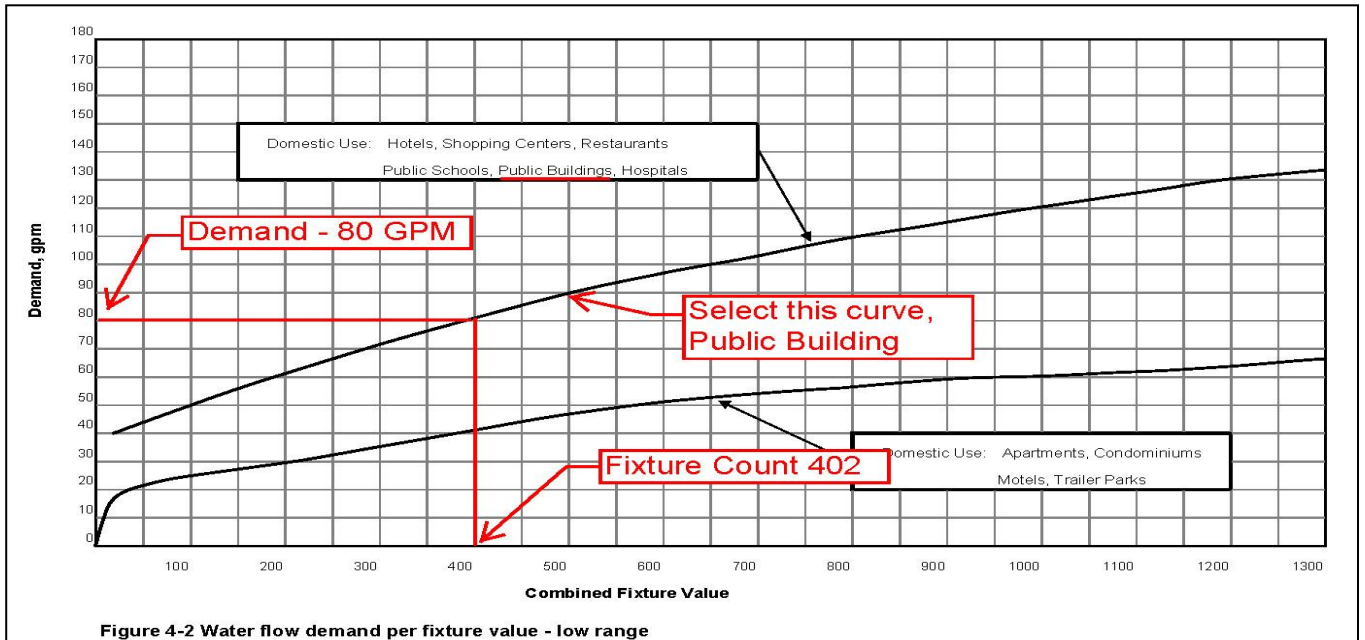
Neptune Water Meter Operating Characteristics

Meter Type	Max. Operating Capacity (gpm)	Operating Range (gpm)	Low Flow (gpm)
Positive Displacement			
5/8"	20	1 - 20	⅛
3/4"	30	2 - 30	¼
1"	50	3 - 50	⅜
1 1/2"	100	5 - 100	¾
2"	160	8 - 160	1
Compound			
2"	200	½ - 200	⅛
3"	450	½ - 450	⅛
4"	1000	1 – 1000	½
6"	2000	1½ - 2000	¾

Select 1 ½" Meter: operating capacity > 80 GPM